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Exhibit No. ~~300~~
Issues: Need for the Project
Witness: Joseph J. Jaskulski, P.E.
Type of Exhibit: Rebuttal
Sponsoring Party: MO Landowners Alliance
Case No.: EA-2016-0358
Date Testimony Prepared: January 24, 2017

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EA-2016-0358

REBUTTAL TESTIMONY OF

JOSEPH J. JASKULSKI

ON BEHALF OF

MISSOURI LANDOWNERS ALLIANCE

January 24, 2017

MLA Exhibit No. 302NP
Date 3-24-17 Reporter AF
File No. EA-2016-0358

NP

Q. Please state your name.

A. Joseph J. Jaskulski

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Missouri Landowners Alliance (MLA) .

Q. By whom are you employed, and in what capacity?

A. I am President of Project Performance Group, LLC.

Q. Please briefly describe the usual types of projects and work performed by Project Performance Group.

A. Project Performance Group provides a wide variety of management and technical consulting services to the electric power industry, including development assistance, acquisition due diligence, energy project management, commissioning and training, business plan development, energy audits, outage management, root-cause failure analysis, performance testing, power supply procurement, and expert witness services.

Q. Please describe your educational background and work experience as it relates to your testimony in this case.

A. I have a Bachelor of Science Degree in Mechanical Engineering from Valparaiso University, a Master of Science Degree in Mechanical and Aerospace Engineering from the Illinois Institute of Technology, and a Master of Management Degree from the Kellogg School at Northwestern University. I currently teach "Managerial Finance" at Northwestern University at the McCormick School of Engineering's Master of Project Management Program, and formerly taught "Financial Issues for Engineers."

I am a registered Professional Engineer in the State of Illinois, a LEED Accredited Professional and hold a Chief Engineer's license from the National Institute for the Uniform Licensing of Power Engineers.

I worked eleven years at Commonwealth Edison, the utility that serves the northern third of Illinois, including Chicago, in their construction, engineering, and operations departments. I worked ten years at Indeck Energy Services, a private developer and operator of independent power generating facilities. Concurrently, I was president and part owner of Indeck Operations, which ran thirteen generating facilities on three continents. I opened a Chicago office for General Physics to provide technical and management consulting services to the electric power sector, and converted it to Project Performance Group in 2000. I ran the Construction Management and Energy Solutions Divisions of Kenny Construction Company from 2005 to 2009. In 2009 I restarted Project Performance Group.

My resume is attached as Schedule JJC-1.

Q. What material submitted by Grain Belt in this case did you review in preparation for this testimony?

A. I reviewed the Application filed by Grain Belt on August 30, 2016, and the accompanying direct testimony from the following witnesses: Michael P. Skelly, David Berry, Dr. Wayne Galli, Mark O. Lawlor, Suedeen Kelly, J. Neil Copeland, Edward C. Pfeiffer, and Prescott Hartshorne. I also reviewed numerous responses to Data Requests and the attachments thereto.

Q. What are the issues you will be addressing?

A. First, I will address the lack of firm commitments from wind generators, potential utility customers, or load serving utilities to buy capacity on the proposed transmission line. Second, I will address the purported $10M in saving MJMEUC expects under the Grain Belt Transmission Service Agreement. Third, I will address Production Tax Credits in the context of Grain Belt's schedule. Fourth, I will address whether wind power generated in Kansas and transmitted to Missouri over Grain Belt is cheaper than wind power generated in Missouri.

Q. Please summarize your overall findings with regard to the first issue.

A. Developments since Grain Belt's 2014 case have not materially changed the facts the Commission relied on in rejecting that application. Just as in the last case, Grain Belt still has no memorandums of understanding with wind generators, and no firm commitments from any load serving utilities to buy capacity on the proposed transmission line.

Q. Are there commitments of any kind with any wind generators to buy capacity on the proposed line?

A. No. Grain Belt stated in its November 3, 2016 response to MLA Data Request G.11: "Please list all wind generators which have any form of contract, memorandum of understanding or similar agreement with Grain Belt to purchase capacity on the proposed line. RESPONSE: Grain Belt does not have any such contracts at the time of this response." Subsequently, Grain Belt provided Memorandums of Understanding with **

[redacted]

[redacted]**

Q. Are there commitments of any kind with any load serving entities to buy capacity on the proposed line?

A. No. Grain Belt stated in its November 3, 2016 response to MLA Data Request G.3: "Please list all load-serving entities in Missouri (not including MJMEUC) which have any form of contract, memorandum of understanding or similar agreement with Clean Line or Grain Belt to purchase capacity on the proposed line. RESPONSE: None."

Grain Belt also stated in its November 3, 2016 response to MLA Data Request G.7: "Please list all load-serving entities located outside of Missouri which have any form of contract, memorandum of understanding or similar agreement with Grain Belt to purchase capacity on the proposed line. RESPONSE: Grain Belt does not have any such contracts at the time of this response."

I discuss below why the MJMEUC Transmission Services Agreement (TSA) is not a commitment.

Q. Are there any memorandums of understanding between wind farms with potential load-serving utility customers of wind energy from the project?

A. None have been identified. Grain Belt stated in its November 3, 2016 response to MLA Data Request G.5: "Please list each load-serving entity in Missouri which to Grain Belt's knowledge has any form of contract, memorandum of understanding or similar agreement to purchase energy to be transmitted over the proposed Line. RESPONSE: Grain Belt is not aware of any such contracts at this time."

Grain Belt also stated in its November 3, 2016 response to MLA Data Request G.9: "Please list each load-serving entity outside of Missouri which to Grain Belt's knowledge has any sort of contract, memorandum of understanding or similar agreement to purchase energy to be transmitted over the proposed Line. RESPONSE: Grain Belt does not have any such contracts at the time of this response."

Q. At the time you finalized your testimony, had Grain Belt provided any updated information to any of the data requests you have mentioned above?

A. Not to my knowledge.

Q. Is the MJMEUC TSA a commitment to buy capacity on the proposed transmission line?

A. No it is not. In Paragraph 4 of its Application, Grain Belt describes the MJMEUC TSA as the most significant new milestone achieved by Grain Belt since its previous application. In Paragraph 25, Grain Belt says: "Of MJMEUC's total 225 MW transmission service, 200 MW is for service from Kansas to Missouri. In addition, MJMEUC has agreed to purchase 25 MW of capacity (with the option to purchase another 25 MW) for service from Missouri into PJM." (Grain Belt Application, Para 25).

However, Grain Belt fails to mention that MJMEUC may without penalty or cost elect to take no capacity over the new line, and that decision will be made sixty to ninety days before the line is then expected to enter service. Per Grain Belt's November 3, 2016 response to MLA Data Request G.21 the new line is now expected to enter service in November of 2021. If that schedule holds, MJMEUC's actual commitment to buy capacity, if any, on the proposed transmission line could occur as late as October 1, 2021.

In short, there currently is no commitment from MJMEUC to buy any capacity on the proposed transmission line.

Q. What provisions of the MJMEUC TSA state there is no commitment of any kind from MJMEUC to buy capacity on the proposed transmission line?

A. Section 3.4 of the TSA states: "Transmission Customer may, through the Notice of Decision, reduce any or all of the Contract Capacities under this Agreement without limit or penalty". The Notice of Decision is to be provided "no later than sixty (60) days prior to the Commencement Date", the date the line enters commercial service.

That section goes on to make it clear that MJMEUC may reduce its Kansas to Missouri Contract Capacity to zero: "For the avoidance of doubt, and notwithstanding anything to the contrary in this Agreement, (i) the final KS-MO Transmission Service Contract Capacity as reflected in the Notice of Decision may be any amount between 0 and 200 MW".

Q. Do similar terms apply to MJMEUC's purchase of Missouri to PJM capacity?

A. Yes. Section 3.4 (v) of the TSA states: "...the final MO-PJM Transmission Service Contract Capacity as reflected in the Notice of Decision may be any amount between 0 and 50 MW..."

Q. Will MJMEUC have made any payments to Grain Belt prior to excising their capacity options?

A. No. Payments are not due until after Grain Belt enters commercial service.

Q. If MJMEUC elects 0 MW for both paths, what payment is due Grain Belt?

A. None. Section 3.5 of the TSA defines the Transmission Service Charge as the sum of the products of applicable Contract Capacity and Contract Rates. If the Contract Capacities for both paths are zero, the Transmission Customer Payment is zero.

Q. How would you describe the MJMEUC TSA.

A. The TSA is nothing more than an option agreement. MJMEUC has the right, but no obligation, to purchase capacity on the proposed line. The option can be exercised as late as sixty days before the line enters service.

MJMEUC and Grain Belt have both described the TSA as an option. MJMEUC's May 2, 2016 Meeting Minutes (MJM.7 Page 45) state, "John Grotzinger [Chief Operating Officer at MJMEUC] reviewed the terms of the Grain Belt transmission option for MoPEP." MJMEUC's June 2, 2016 Board Meeting Minutes (MJM.7, Page 43) state: "Michael Skelly, President of Clean Line Energy Partners, introduced the project which would begin near Dodge City, KS to pick up wind power, connect to MISO in Ralls County, then end near Terre Haute, IN. In the proposed contract, MJMEUC would have an option for up to 200 MW of transmission into Missouri."

Assuming that MJMEUC would or would not take any capacity on Grain Belt is speculative. MJMEUC has reserved the right to take no capacity whatsoever, suggesting that they may view that as a real possibility. Because MJMEUC may elect to take no capacity on Grain Belt, a decision it likely will not make until 2021, the MJMEUC Transmission Service Agreement adds nothing of significance to the facts before the Commission in Grain Belt's previous application. In the intervening four years, MJMEUC might well find a more attractive alternative, which they presumably would take instead of the agreement with Grain Belt.

Q. Will the MJMEUC TSA help Grain Belt finance the construction of its transmission Project?

A. In my opinion, it will not. On Page 15 of his testimony, Mr. Berry stated Grain Belt "intends to issue project-specific debt secured by the revenue stream from the transmission capacity contracts to raise the capital necessary to complete the remaining development activities, construct the Project, and place it into operation." This is typical for a project of this nature. But since MJMEUC could decide later to buy no capacity on Grain Belt, and consequently make no payment, the MJMEUC TSA cannot be used to secure a portion of the revenue stream required to secure the debt.

Q. Does Grain Belt agree with this conclusion?

A. Apparently so. In MLA's Data Request DB.34, we asked Mr. Berry the following: "With reference to page 18 line 10 - page 20 line 7 of your testimony, please list all transmission projects of which you are aware where construction loans were backed in whole or in part by TSAs which included an explicit option for the prospective buyer to not buy any capacity on the line." Mr. Berry responded: "I am not aware of any such projects."

Q. Turning to the second issue, has Grain Belt or MJMEUC made a meaningful analysis that the MJMEUC TSA will save its members $10 million annually?

A. Not that I am aware of. Mr. Lawlor states at Page 3 of his direct testimony that MJMEUC estimates that the capacity purchase of 200 MW from the Project will save members at least $10 million annually compared to an existing contract for fossil fuel generation. However, in Grain Belt's response to the PSC Staff's Date Request 0033,

Grain Belt states: "MJMEUC shared the results of the savings estimate but not the calculation."

Q. Were you able to verify the alleged savings from material supplied by the MJMEUC?

A. No. The only support provided for the $10 million estimate from the MJMEUC was an eight-row spreadsheet in response to MLA's Data Request MJM.13: "With reference to page 3 lines 16-18 of the direct testimony of Mr. Lawlor, please provide a copy of the studies or analyses (including work papers) in which the MJMEUC estimated the $10 million in annual savings to its members."

Q. Is that spreadsheet a legitimate analysis showing that the MJMEUC TSA will save its members $10 million annually?

A. No. It is a flawed calculation of the cost of transmitting 100 MW and 200 MW of wind power from SPP to MISO. There is no calculation of, or comparison to, buying wind power over Grain Belt. The spreadsheet also contains an error in calculating the loss component of the costs. The total costs end up including addition of megawatt-hours and dollars which is flawed mathematics. My analysis of the MJM.13 spreadsheet is attached as Schedule JJC-2.

Q. What would be required in order to show any legitimate savings attributable to the MJMEUC contract with Grain Belt?

A. To legitimately show savings, it is necessary to determine the cost expected to be incurred utilizing the MJMEUC contract with Grain Belt, and similarly determine the cost expected to be incurred for all reasonable alternatives. A reasonable alternative may not be viable due to technical, reliability, or legal constraints. Those reasonable

alternatives that are viable should be evaluated financially. The only way to show legitimate savings attributable to the MJMEUC contract with Grain Belt is to compare it to the otherwise most attractive viable alternative.

The cost expected utilizing the MJMEUC contract with Grain Belt should reflect the phase-out of Production Tax Credits (discussed below), which has begun based on Grain Belt's current schedule, and will advance if there is any further delay. A legitimate analysis would consider multiple Grain Belt completion dates and assign probabilities to each.

The "do nothing alternative" should always be considered. In this case doing nothing might mean relying on future market purchases instead of procuring 200 MW of power well in advance of its delivery in 2021. MJMEUC can still exercise the "do nothing alternative" by taking no capacity in their Notice of Decision, which will occur in 2021 under Grain Belt's current schedule.

Procuring wind energy in Kansas and transporting it over the existing AC transmission system is a reasonable viable alternative, as is procuring wind energy in Missouri or MISO. If renewable generation is not a requirement, purchases from, or construction of, fossil-fueled sources (including natural gas fueled sources) are also reasonable viable alternatives.

Only by considering all these alternatives can any legitimate savings under the MJMEUC/Grain Belt agreement be determined.

Q. Turning to the third issue, please explain briefly what the Production Tax Credit (PTC) is as it relates to wind generation.

A. The PTC is a federal incentive intended to improve the economic viability of certain renewable electric generation technologies, including wind-generated electricity. It is an inflation-adjusted tax credit earned per kilowatt-hour generated by a renewable energy resource during its first ten years of operation. The tax credit was worth $0.023 per kWh in 2016. The inflation-adjusted 2017 value will be determined by April of 2017. The PTC is being phased out based on when a wind farm begins construction. Wind farms that started construction in 2016 are eligible for 100% of the credit. That percentage reduces by 20% in each of 2017, 2018 and 2019. The credit is phased out totally for wind farms starting construction in 2020 and thereafter.

Q. What is the value of the PTC expected from the wind farms proposed to be connected to Grain Belt?

A. Assuming that 4,600 MW of wind capacity will be connected to Grain Belt's Kansas Converter Station, achieve the 55% capacity factor assumed by Grain Belt (included in Schedule DAB-5 to Mr. Berry's testimony), and that the value of the credit escalates at 2.5% per year, the total value of the credits over their ten-year term is shown in the following table:

Wind Farm Start-of Construction	PTC Phase-Out	Total Value of PTC
2016	100%	$6.3 Billion
2017	80%	$5.2 Billion
2018	60%	$4.0 Billion
2019	40%	$2.7 Billion
2020 and thereafter	0%	$0

Details of these calculations are attached as Schedule JJC-3.

Putting these values into perspective, based on Grain Belt's assumptions used in its economic model (included in Schedule DAB-5 to Mr. Berry's testimony), 4,600 MW of wind capacity has a construction cost of $7.5 Billion. In other words, at 100% of the PTC, the PTC equates to 84% of the construction cost of the wind farms.

Q. Will the wind farms connected to Grain Belt be entitled to 100% of the PTC available in 2016?

A. No. Mr. Berry recognizes this on Page 32 of his testimony: "I have updated [reduced] the value of the federal production tax credit to 80% of its full value, reflecting the fact that construction of wind farms connected to the Project is unlikely to begin until 2017." Mr. Berry states that wind farms will not have certainty until Grain Belt has obtained further regulatory approvals, including in this matter before the Missouri PSC.

Additionally, to be entitled to the tax credits a wind farm must make continuous progress towards completion once it starts construction. Under IRS rules, there is a Continuity Safe Harbor if the wind farm is in service no more than four calendar years after the year construction began. If it takes longer, the wind farm must demonstrate continuous construction based on facts and circumstances. The rules excuse certain interruptions in construction, including a delay in completion of construction of a new transmission line, but not the expected duration of that construction.

In response to MLA's DR G.21, Grain Belt stated the best estimate for the new line's in-service date is November 2021. To utilize the Continuity Safe Harbor, a wind farm can start construction no earlier than 2017 to be in service in 2021.

Q. Could wind farms connected to Grain Belt receive even less than 80% of the full PTC value?

A. Yes. If Grain Belt's schedule slips just two months, it will enter service in 2022. To utilize the Continuity Safe Harbor, wind farms could start construction no earlier than 2018 to be in service in 2022, four calendar years later. Those will receive only 60% of the PTC's full value. A wind farm that started construction in 2017 and enters service in 2022 would not fall under the Continuity Safe Harbor, and would then depend on the IRS's favorable evaluation of facts and circumstances to be eligible for the tax credits at all.

Grain Belt has consistently been optimistic about its project schedule.

- When Grain Belt applied to the Kansas Corporation Commission on March 7, 2011, it had "a projected in-service date of 2016".
- In a December 7, 2011 press release, available on its website, Clean Line stated the line "could begin commercial operations as early as 2017."
- In a May 22, 2013 press release, Clean Line stated the line "could begin commercial operations as early as 2018."
- In a January 21, 2015 press release, Clean Line stated the line "is expected to be energized in 2019."
- Grain Belt's current best estimate for the in-service date is November 2021.

In the six years since Grain Belt applied to the Kansas Corporation Commission, it's completion schedule has slipped five years. A slippage of two additional months has to be considered a possibility, if not a likelihood. Such a delay would reduce the total Production Tax Credits by over a billion dollars, thus significantly diminishing the economic viability of the wind farm generation.

Q. Please discuss some of the potential delays in the Grain Belt Project.

A. There are numerous potential sources of further delay. On Page 15 of his testimony, Mr. Berry states: "We will obtain construction financing once we have obtained the major regulatory approvals necessary to proceed with the Project, and we have sold a majority of the capacity on the Project." The only capacity "sold" to date is the MJMEUC TSA, which as described above cannot be used to support the financing of the project.

At this point no agreements have been identified between wind suppliers and load serving entities.

[redacted]

Even though Grain Belt is not a party to these contracts, the wind farms and Grain Belt depend on each other; therefore their development and financing schedules intertwine. Each individual wind farm is also dependent on the success of the others because a minimum volume of power must move over Grain Belt to justify its construction. The wind farms must overcome their own development challenges to satisfy Grain Belt's financiers that they and their power purchasers will become reliable revenue sources.

Delay can reduce the available PTC. If the wind farm absorbs the cost, it becomes less viable. If the cost is passed on to the power purchaser, the price is less attractive. The wind farms' financiers must also be confident Grain Belt will be in place to transport the wind power. These power purchase agreements from the **[redacted]** wind farms must

include contingent provisions to deal with Grain Belt going forward or not, and pricing adjustment mechanisms to deal with an uncertain level of PTC. All this means a lot of back and forth amongst the numerous parties involved as final commitments are made. The pioneering nature of Grain Belt's concept and the nature and timing of the PTC phase-out means this has never been done before. Estimating the duration of the multiple negotiations, in which Grain Belt will not be a direct party, cannot be precise.

With regard to interconnections, as described in Pages 19-30 of Mr. Galli's direct testimony, Grain Belt does not yet have interconnection agreements for any of the three places it will connect to the AC transmission system.

On Page 25 of his testimony, Mr. Galli says that AEP has to construct a new 765kV transmission line at a cost of $500 million to accommodate Grain Belt's power at the PJM connection. This is a major project in and of itself, and not under the direct control of Grain Belt.

Per Exhibit 8.7 to Grain Belt's Illinois Application, Grain Belt still needs several permits from the US Army Corps of Engineers, including permits to cross navigable waters as defined in Section 10 of the 1899 Rivers and Harbors Act for the crossing of the Missouri River, Mississippi River, Illinois River, and Wabash River. As shown in the Project Schedule provided in response to Data Request MLA-G69, Grain Belt doesn't anticipate receiving these permits until 2019.

Any delay in these activities, and there are many more potential delays, could potentially add two months or more to Grain Belt's schedule.

Q. What would be the impact of a delay in wind farm start of construction on MJMEUC's $10M savings?

A. We do not yet have details of MJMEUC's savings calculations. A July 12, 2016 memo from John Grotzinger to MPUA Utilities (MJM.7, Page 12) stated "Current regulations surrounding the eligibility of production tax credits dictate new wind farm construction to be initiated prior to the end of this year." If MJMEUC assumed wind farm construction would start in 2016, their savings calculations assumed the wind farms will be entitled to 100% of the PTC.

If the wind farms in fact start construction in 2017, the earliest feasible year, the PTC would only be worth 80% of full value. Based on the inflation rate of 2.5% used in Grain Belt's Financial Model, the full value of the PTC will be $26.00 per MWh in 2021. A twenty percent reduction would reduce the PTC by $5.22 per MWh. That 20% reduction in tax credits would be worth:

$$200MW \times 55\%\ cap\ factor \times 8760\ \frac{hours}{year} \times \frac{\$5.20}{MWH} = \$5.0M/year$$

If Grain Belt's current schedule slips two months, wind farm construction would start in 2018. There is a 40% reduction in tax credits that is worth $10.0M/year. If passed thru to MJMEUC's members, that would totally negate the projected $10M savings.

Any meaningful analysis of the potential savings resulting from the MJMEUC Transmission Service Agreement has to take into account the phased reduction in tax credit value based on wind farm construction starting in both 2017 and 2018, and potentially later. **

[redacted]**The phased reduction in tax credit value linked to Grain Belt's completion schedule impacts any potential purchaser of wind power over Grain Belt.

Q. Turning to the fourth issue, did you review the bids received in response to MJMEUC's Request for Proposals for wind energy issued on August 18, 2016?

A. Yes. I reviewed **[redacted]** proposals provided by MJMEUC in response to MLA's Data Request MJM.10. It is my understanding that one proposal was withheld. I prepared a bid tabulation listing the salient data from each bid provided by MJMEUC. The tabulation is included as Schedule JJC-4. **[redacted]**

Even though Page 1 of MJMEUC's RFP expressly requested "power supply in the form of wind energy directly associated with Clean Line Energy's Grain Belt Express transmission line project", **[redacted]**

Q. Is wind energy generated in Kansas and transmitted over Grain Belt to Missouri less expensive than wind energy generated in Missouri?

A. Not based on these bids. **[redacted]**

[redacted]

396 [redacted] **Further, that analysis is
397 based on a 2017 construction start for the Kansas wind farm. There is significant risk
398 wind farm construction would start in 2018 with a further $5.20 reduction in the PTC.
399 This would make the cost of Kansas wind energy delivered to Missouri significantly
400 more expensive than Missouri wind energy.

401 **Q. Does this concludes your testimony?**

402 A. Yes it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Grain Belt Express Clean Line LLC for a Certificate of Convenience and Necessity Authorizing it to Construct, Own, Operate, Control, Manage, and Maintain a High Voltage, Direct Current Transmission Line and an Associated Converter Station Providing an interconnection on the Maywood-Montgomery 345 kV Transmission Line	)	Case No. EA-2016-0358

Affidavit of Joseph J. Jaskulski

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

Joseph J. Jaskulski, being first duly sworn on oath states:

1. My name is Joseph J Jaskulski

2. Attached hereto and made a part hereof for all purposes is my testimony submitted to the Missouri Public Service Commission.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein asked are true and accurate to the best of my knowledge, information and belief.

Joseph J. Jaskulski

Subscribed and sworn before me this 18 day of January, 2017.

Notary Public

PATRICIA M MKRDICHIAN
OFFICIAL SEAL
Notary Public, State of Illinois
My Commission Expires
July 26, 2019

JOSEPH JASKULSKI, P.E.

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PROFESSIONAL PROFILE

Senior executive with a strong record of leadership and thorough knowledge of the construction and energy industries.

Large Scale/High Profile Construction Experience Largest project: $2.2 billion capital program. Responsible for over $6 billion in construction work, including the Adaptive Reuse of Soldier Field. Numerous power plant construction projects.

Energy Industry Experienced in all aspects of the energy industry: development, financing, construction, operations, maintenance, asset management, facility acquisition/divestiture, and efficiency improvement. Numerous evaluations and audits of generating portfolios, including review of business processes and identifying/quantifying improvement opportunities/potential threats. Green energy experience, including, wind energy construction, smart grid implementation, building energy conservation measures.

Entrepreneur Four new ventures: Indeck Energy Services, Indeck Operations, Insight Energy, and Project Performance Group.

Large Scale/High Profile Project Experience Largest project: $2.2 billion capital program. Responsible for over $4 billion in construction work, including the Adaptive Reuse of Soldier Field.

International Experience Canada, United Kingdom, Australia, Guatemala, and Guyana.

CAREER ACHIEVEMENTS

Founded and managed the Project Performance Group to provide technical, economic and management services to the competitive electric power industry.

- Performance Engineering
- Power Plant Commissioning
- Construction Management
- Insurance Claim Management
- Expert Testimony
- Acquisition Due Diligence
- Project Development
- Contract Dispute Resolution

Founded and managed Indeck Operations, Inc, an independent power plant operating company. Indeck Operations grew to safely and profitably operate over 950 MW of electric capacity in the United States, England, Guatemala, and Guyana.

LICENSES

Licensed Professional Engineer, Illinois
LEED Accredited Professional
Chief Engineer, National Institute for the Uniform Licensing of Power Engineers

EXPERIENCE

2009-present **Project Performance Group, LLC, Evanston, IL**
President. Provide technical, economic and management services to the electric power industry, including primary energy source selection, fuel switching, insulation issues, steam trap and steam leak management, condensate recovery, boiler/turbine cogeneration systems, gas turbine and reciprocating engine cogeneration systems, waste heat utilization, steam turbine improvements, and waste heat utilization. Provide due diligence services to support the evaluation and acquisition of generating assets and portfolios. Prepare projections of future revenues and expenses expected from new, acquired, or modified power generating facilities. Expert witness in all aspects of the electric industry.

2005-2009 Kenny Construction Company, Northbrook, IL
Division Manager. Led the Construction Management and Energy Solutions divisions of Kenny Construction Company, a $550 million, privately-held national construction manager and general contractor. The Construction Management Group represents owners undertaking large construction projects (Largest project: 5-year, $2.2 billion capital program for Chicago Transit Authority. Highest profile project: The Adaptive Reuse of Chicago's Soldier Field. Other projects included new terminals at Chicago's Midway Airport and repurposing of US Steel's 600 acre South Works site). The Energy Solutions Group designed and built renewable energy projects and energy conserving improvements, including providing a Global Building Management System for the City of Chicago 300 city buildings.

2000-2005 Project Performance Group, Inc., Winnetka, IL
President. Founded and managed the Project Performance Group to provide technical, economic and management services to the electric power industry.

2003 Insight Energy, Chicago, IL
Vice President. One of a team that formed Insight Energy, raising $100 million in venture capital commitment to finance the acquisition of power generating assets. Responsible for due diligence during the acquisition process and operations, maintenance, and asset management after acquisition.

1998 - 2000 General Physics Corporation, Columbia, MD
Executive Director. Managed GP's Chicago office. Led GP's efforts to provide services to the independent, non-utility, power generation sector.

1993 - 1998 Indeck Operations, Inc., Buffalo Grove, IL
President, Owner. President when it was spun off as a separate corporation. Negotiated with lenders and partners to transfer operating and maintenance (O&M) agreements for existing facilities to Indeck Operations. Developed and executed O&M Agreements for new projects. Indeck Operations provided operating services under long term agreements at thirteen facilities on three continents. Total capacity 1000 MW burning coal, natural gas, heavy fuel oil and wood.

Responsible for the turnover from contractor, performance guarantee, and performance testing sections of Indeck Energy Services' Engineer, Procure, Construction Agreements.

Indeck Operations provided consulting services to select clients including primary energy resource selection, facility energy assessments, power market evaluations, performance improvement recommendations, cogeneration feasibility studies, primary energy source selection, fuel switching, insulation issues, steam trap and steam leak management, condensate recovery, boiler/turbine cogeneration systems, gas turbine and reciprocating engine cogeneration systems, waste heat utilization, steam turbine improvements, and waste heat utilization. Indeck Operations also performed heavy maintenance (including gas and steam turbine overhauls and upgrades), vibration monitoring services, and environmental air quality tests.

1988 - 1993 Indeck Energy Services, Inc., Buffalo Grove, IL
1991-1993, Vice President, Operations. Established Indeck's operating division. Developed operating and administrative (benefits, payroll, purchasing, accounting, etc.) procedures. Set up accounts receivable function including invoicing for power and steam. Hired plant and home office personnel to support start-up, turnover, and initial operation of new facilities and on-going operations thereafter.

1988-1995, Project Manager, Indeck Turners-Falls Energy Center (20 MW Coal Fueled Cogeneration Plant, Turners Falls, Massachusetts). Assumed project management responsibility as Indeck's first facility neared initial operation. Managed turnkey contract through facility initial operation and performance testing. Identified performance shortfall and negotiated replacement of the steam turbine by the manufacturer. Represented the owner through successful arbitration of construction delay and performance short fall issues with the turnkey contractor

1988, Project Manager, Indeck-Yerkes Energy Center (53 MW Gas Turbine Combined Cycle Cogeneration Plant, Tonawanda, New York). Responsible for all aspects of this project, Indeck's first gas turbine facility combined cycle cogeneration facility, in its initial stages.

1977-1988 Commonwealth Edison Company, Chicago, IL
Operating, maintenance, engineering, construction, and environmental management positions involved with ComEd's coal-fueled generating stations. Experience with boiler combustion management, conventional feedwater economizer, condensing economizers, boiler blowdown thermal heat recovery, cogeneration projects, and insulation projects.

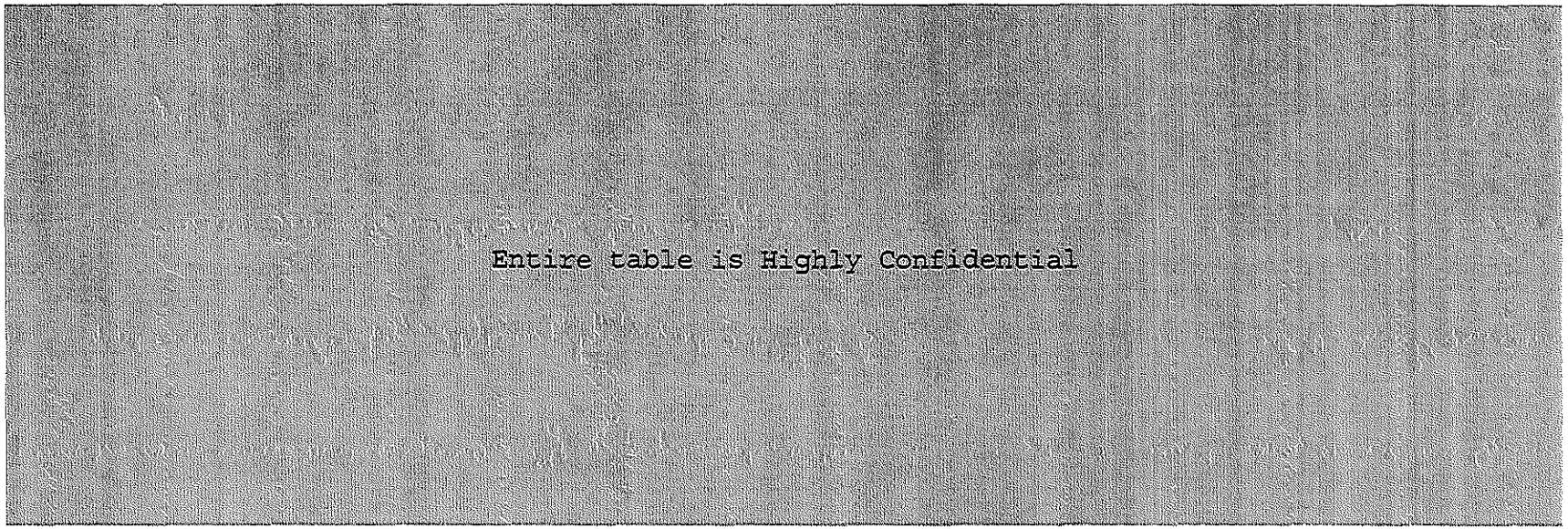
EDUCATION

Currently Adjunct Professor, Northwestern University: "Financial Issues for Engineers" and "Managerial Finance"
Master of Management - Kellogg Graduate School, Northwestern University
Master of Science - Mechanical and Aerospace Engineering, Illinois Institute of Technology
Bachelor of Science - Mechanical Engineering, Valparaiso University

PROFESSIONAL AFFILIATIONS

Member, American Society of Mechanical Engineers
Member, Midwest Cogeneration Association
Former Member, Frame 6 Users Group
Former Member, ASME Power Test Code Committee for Overall Plant Performance (PTC-46)
Former Member, Evanston Energy Commission
Former Member, Illinois Infrastructure Council

Analysis of MJM.13 - HIGHLY CONFIDENTIAL



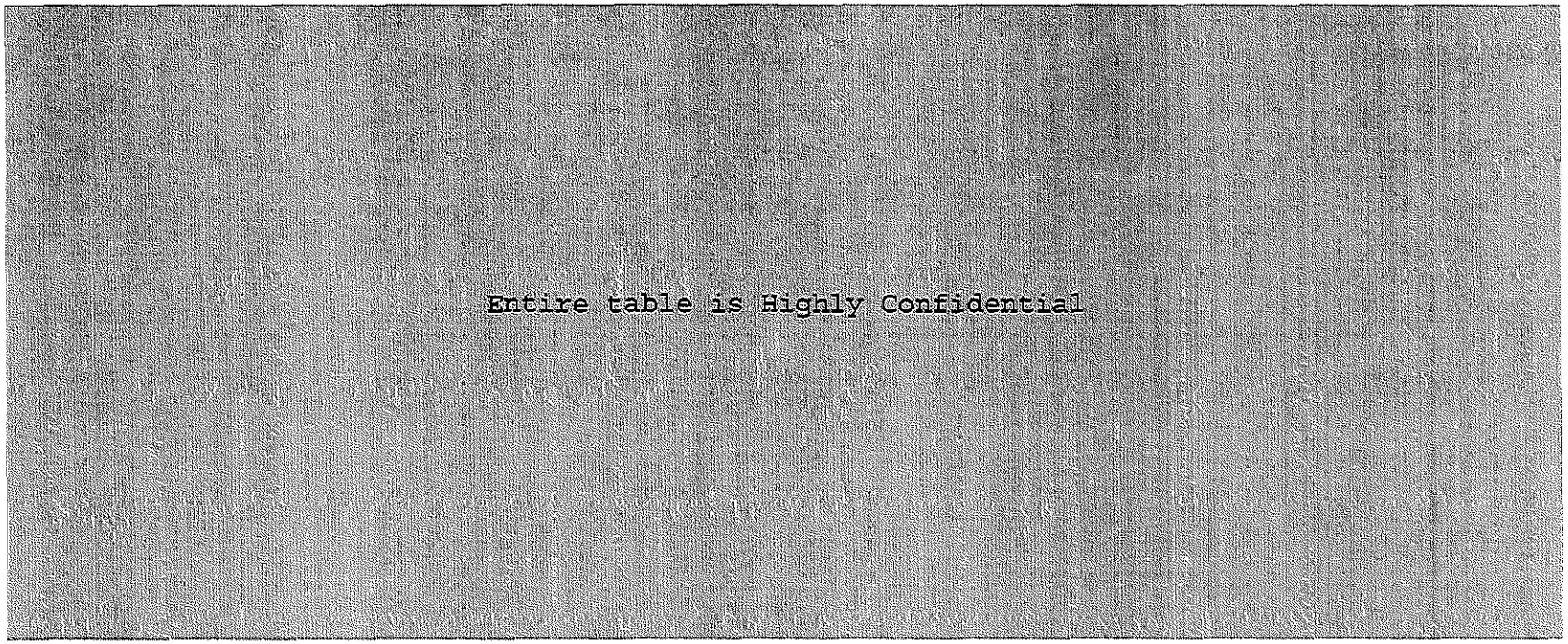
Value of Production Tax Credits

Wind farm capacity 4600 MW
Capacity factor 55%

		BGE/wind farm COD	2020	2021	2022	2023	2024
	PTC - $/KWh	Wind farm start	2016	2017	2018	2019	2020
Inflation adjustment	2.50%	PTC credit	100%	80.00%	60%	40%	0%
2016	$0.023						
2017	$0.024						
2018	$0.024						
2019	$0.025						
2020	$0.025		$ 554,070,000				
2021	$0.026		$ 576,232,800	$ 460,986,240			
2022	$0.027		$ 598,395,600	$ 478,716,480	$ 359,037,360		
2023	$0.027		$ 598,395,600	$ 478,716,480	$ 359,037,360	$ 239,358,240	
2024	$0.028		$ 620,558,400	$ 496,446,720	$ 372,335,040	$ 248,223,360	$ -
2025	$0.029		$ 642,721,200	$ 514,176,960	$ 385,632,720	$ 257,088,480	$ -
2026	$0.029		$ 642,721,200	$ 514,176,960	$ 385,632,720	$ 257,088,480	$ -
2027	$0.030		$ 664,884,000	$ 531,907,200	$ 398,930,400	$ 265,953,600	$ -
2028	$0.031		$ 687,046,800	$ 549,637,440	$ 412,228,080	$ 274,818,720	$ -
2029	$0.032		$ 709,209,600	$ 567,367,680	$ 425,525,760	$ 283,683,840	$ -
2030	$0.032			$ 567,367,680	$ 425,525,760	$ 283,683,840	$ -
2031	$0.033				$ 438,823,440	$ 292,548,960	$ -
2032	$0.034					$ 301,414,080	$ -
2033	$0.035						$ -
2034	$0.036						
	TOTAL		$ 6,294,235,200	$ 5,159,499,840	$ 3,962,708,640	$ 2,703,861,600	$ -

Annual value is Wind farm capacity X Capacity factor X PTC X 8760 hours/year X 1000 kW/MW X PTC credit
Inflation adjustment of 2.5% per year from "Assumptions for levelized cost analysis" Schedule DAB-5

MJMEUC Wind Bid Tabulation – HIGHLY CONFIDENTIAL



Calculation of Kansas Wind Cost Delivered to Missouri – HIGHLY CONFIDENTIAL